



1/33

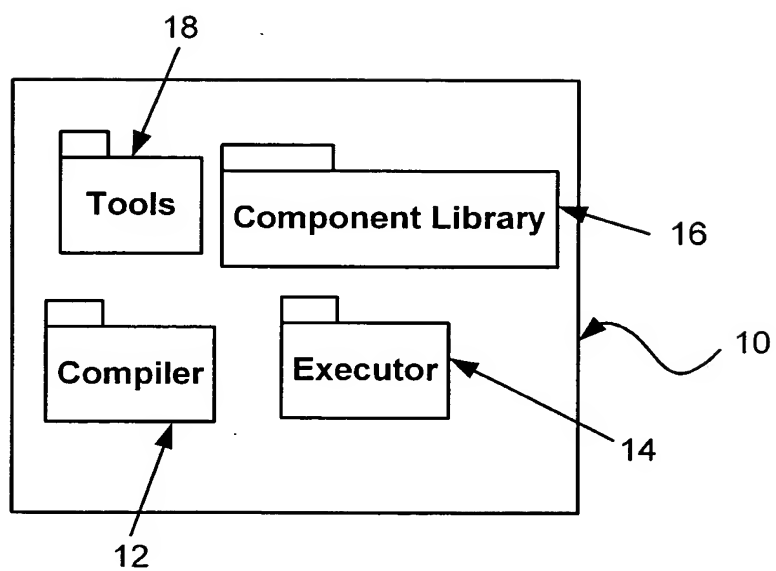


FIG. 1

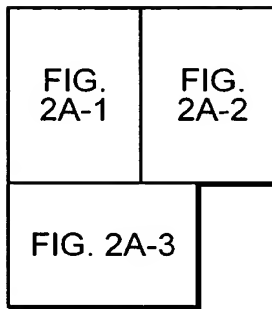
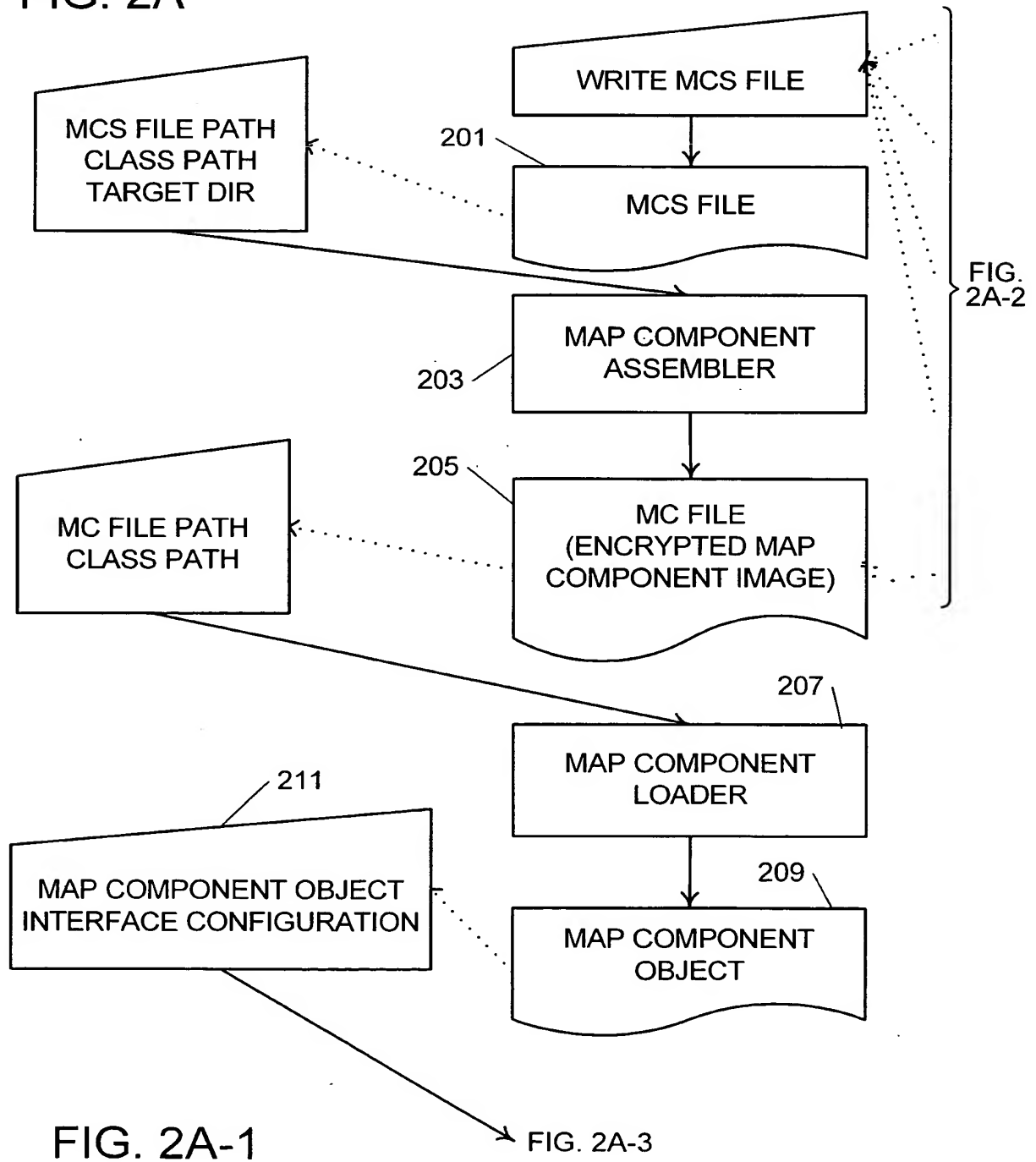


FIG. 2A



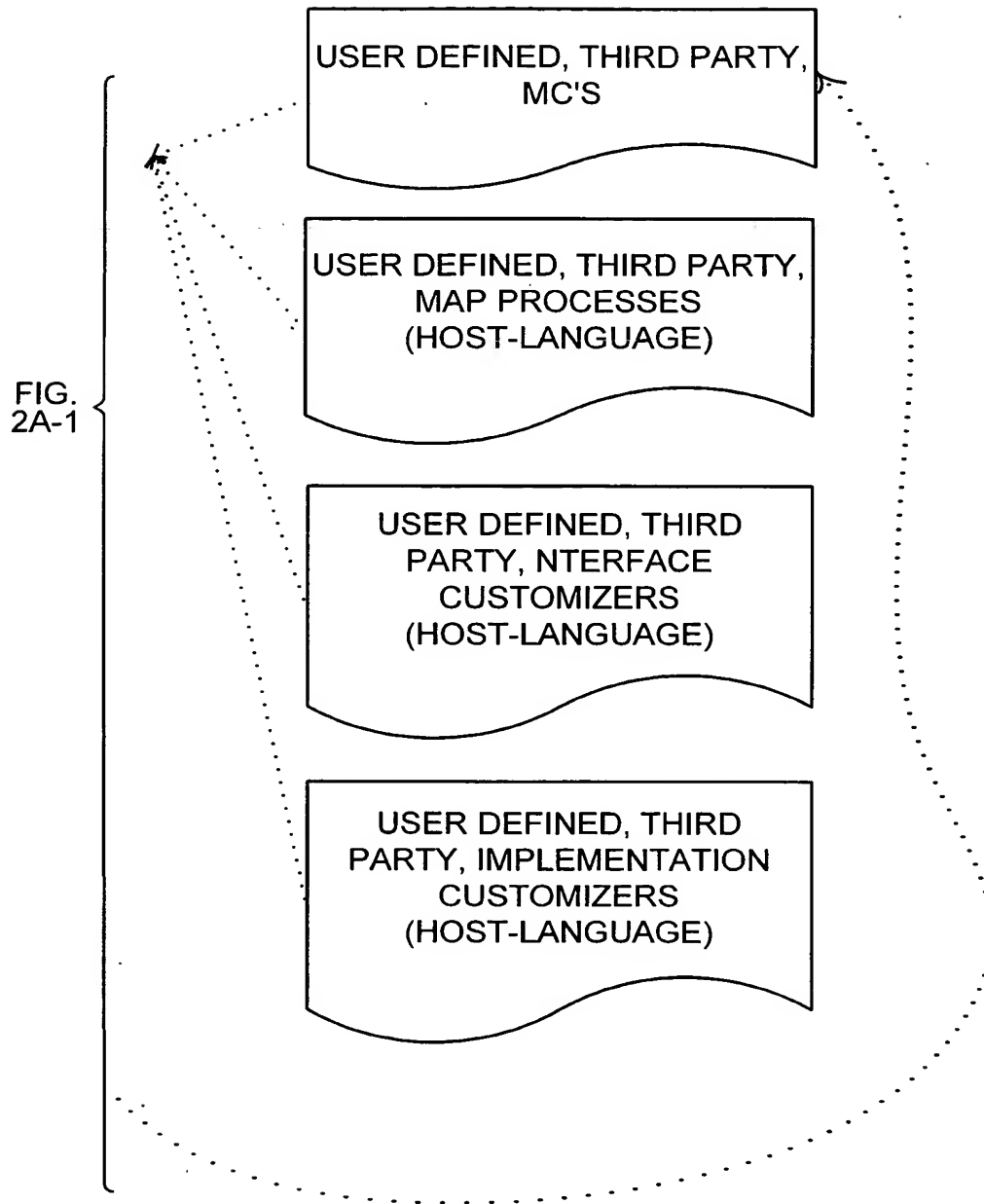
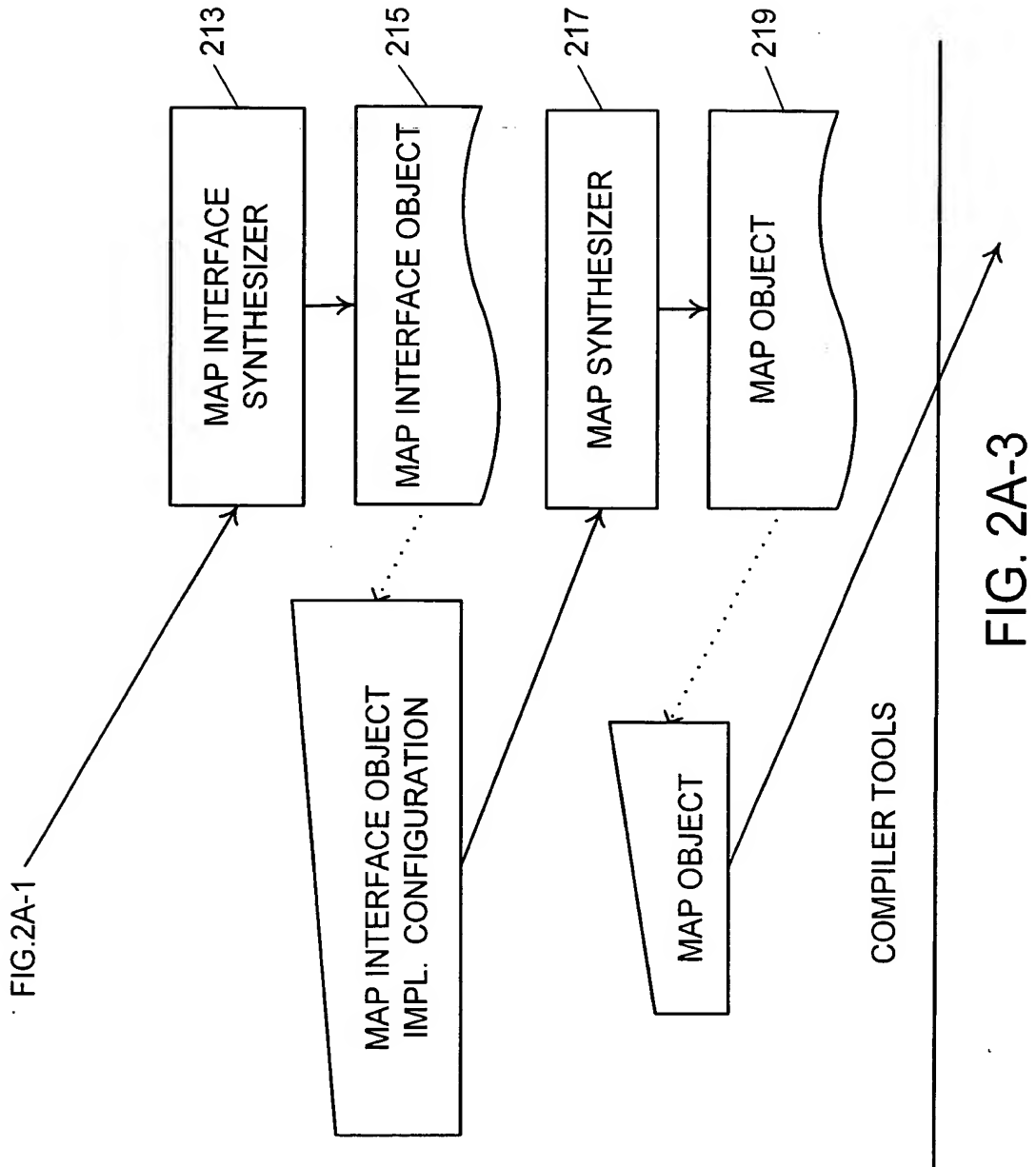


FIG. 2A-2



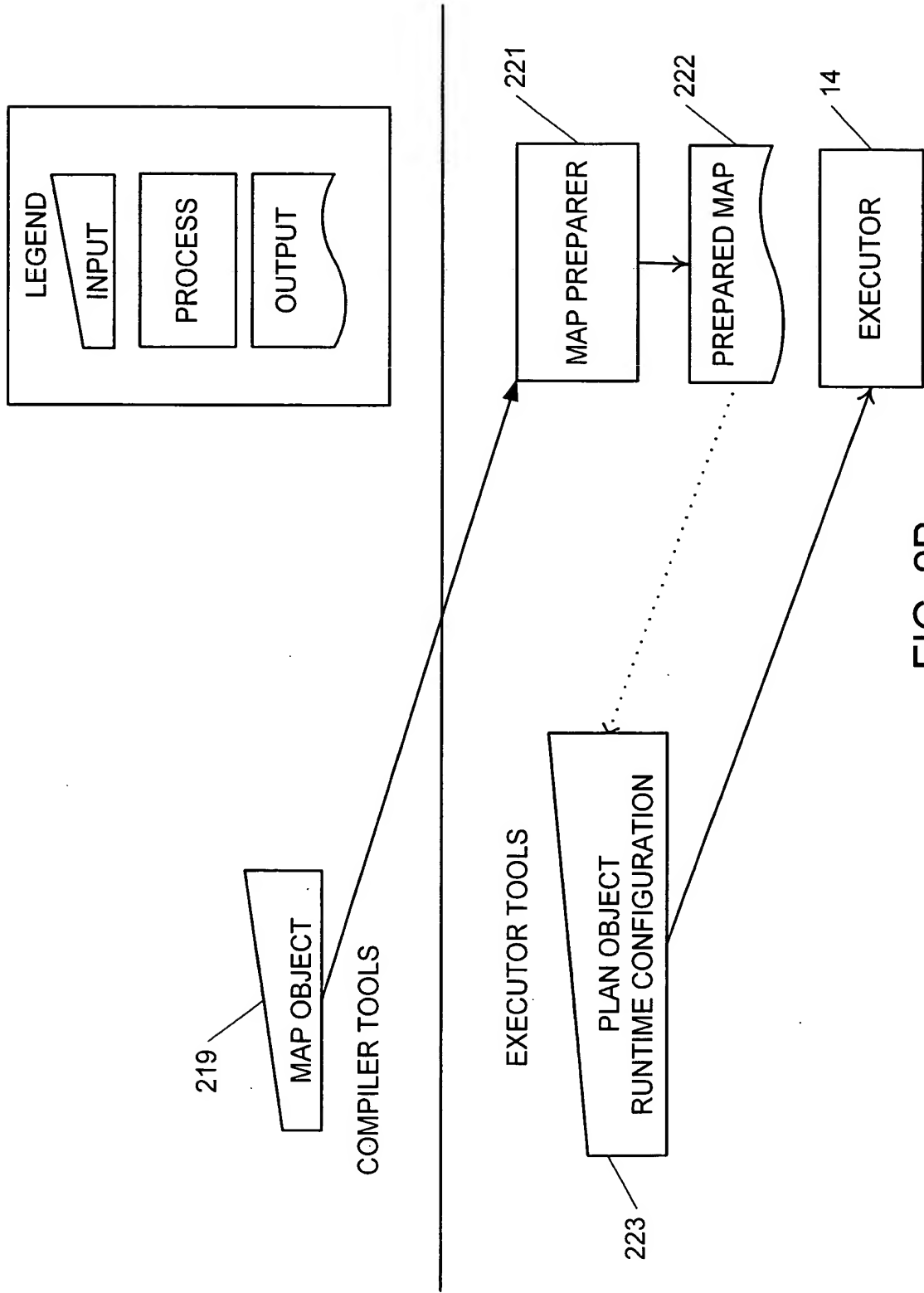
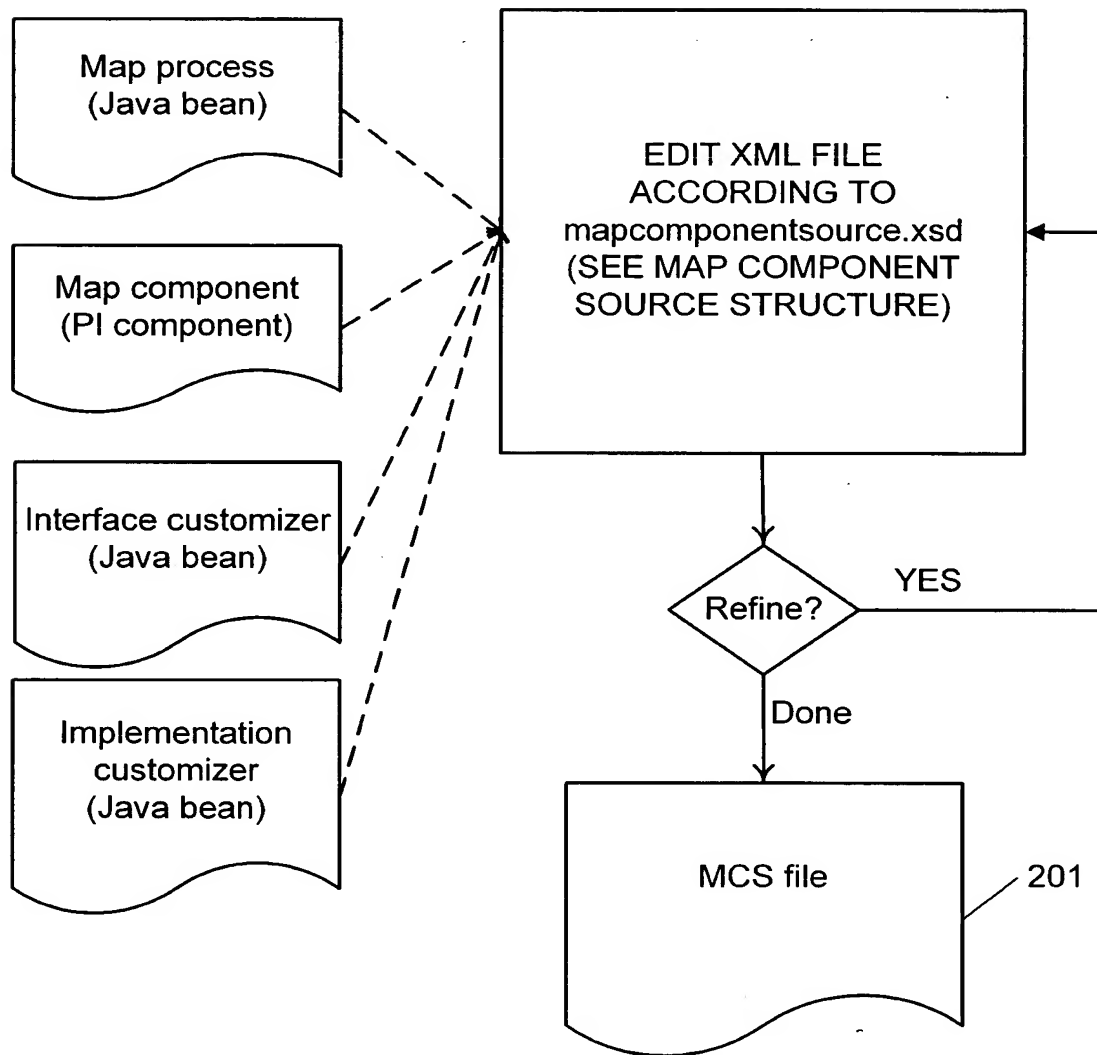


FIG. 2B

MAP COMPONENT SOURCE CREATION**FIG. 3**

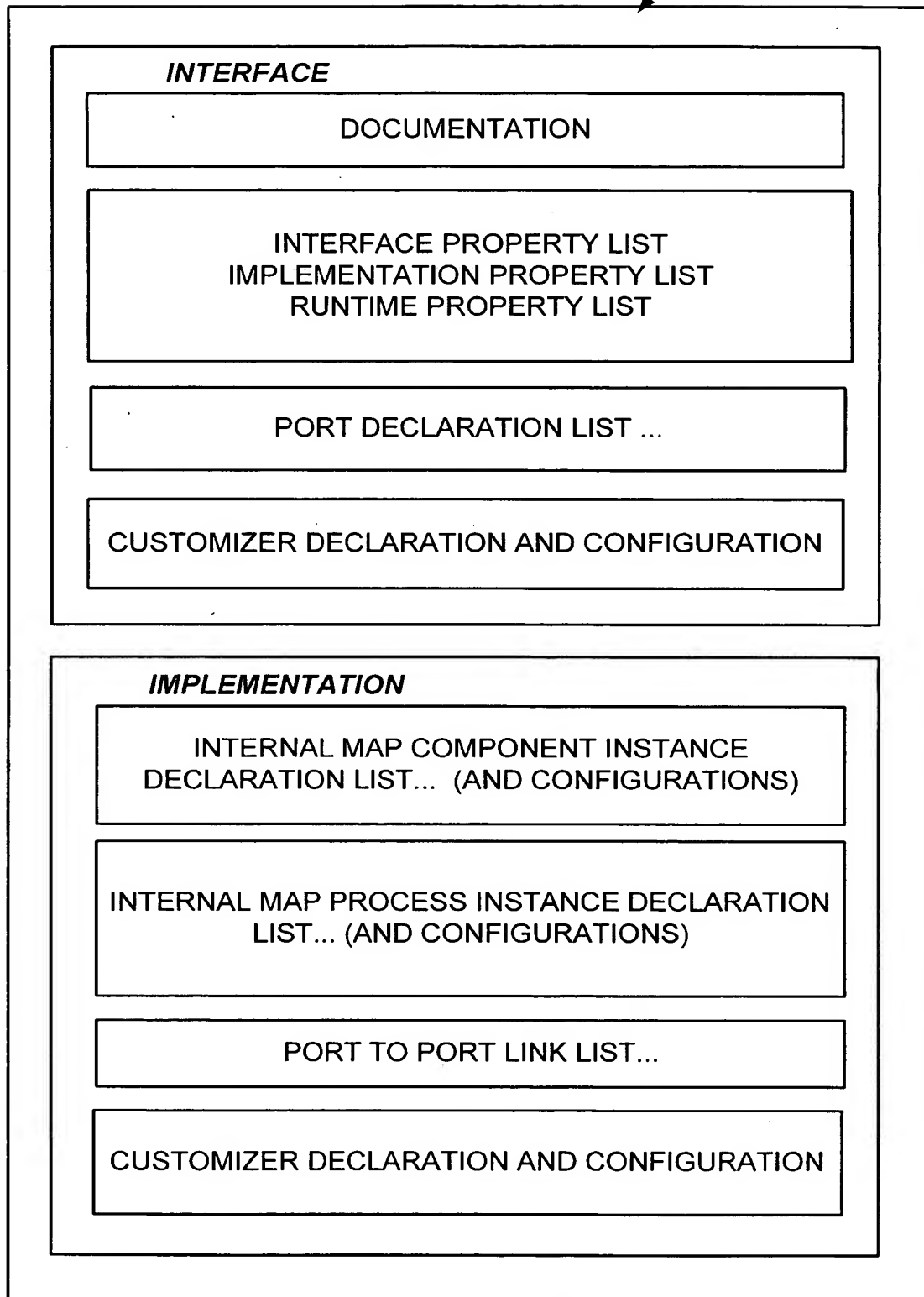
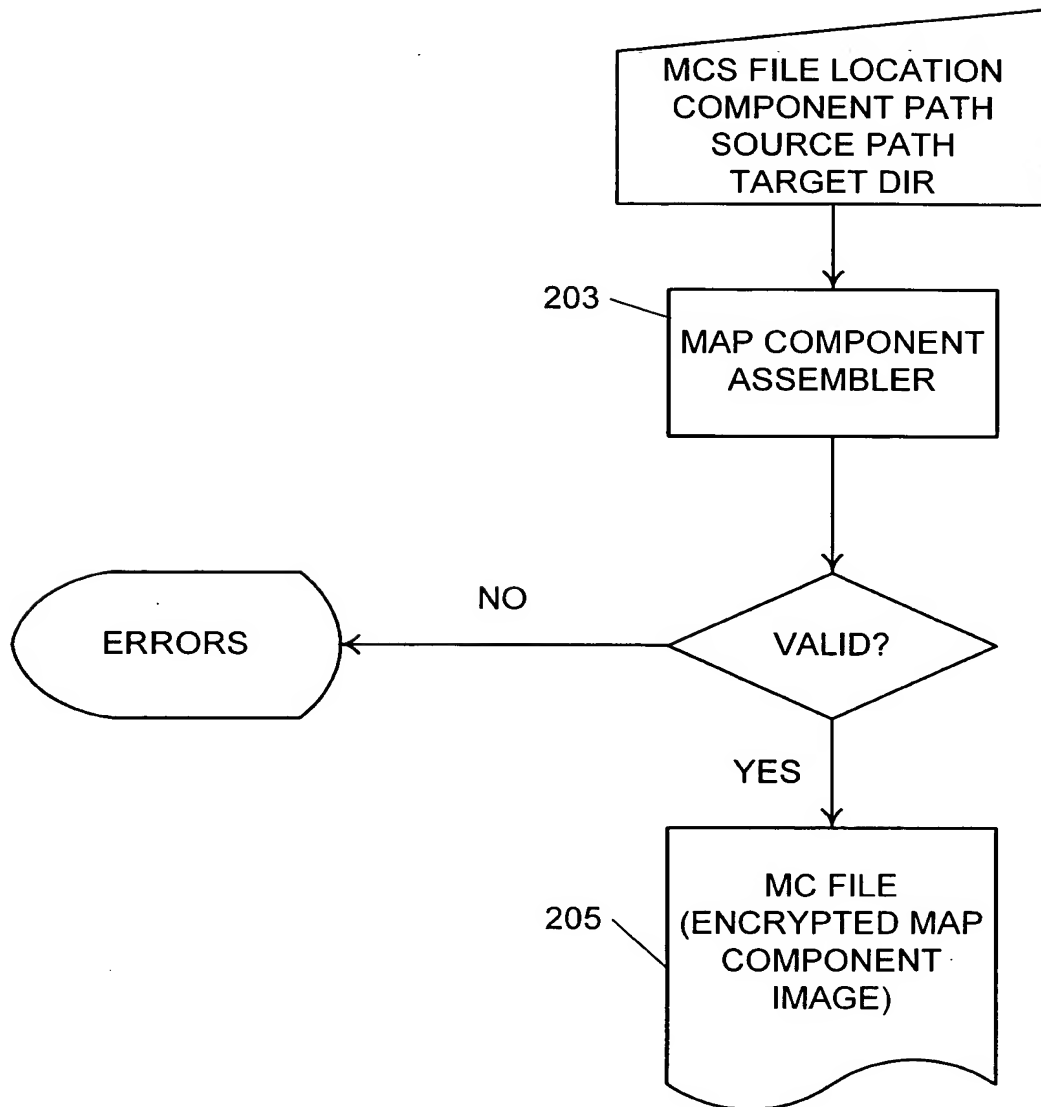


FIG. 4

MAP COMPONENT ASSEMBLY PROCESS**FIG. 5**

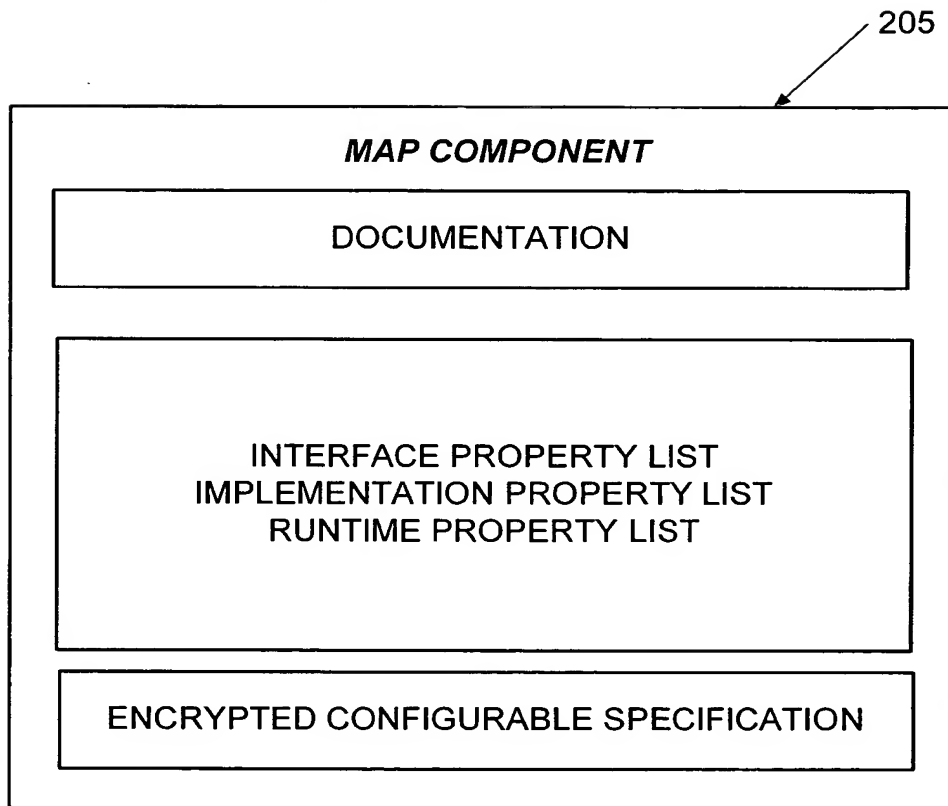


FIG. 6

MAP COMPONENT LOADING

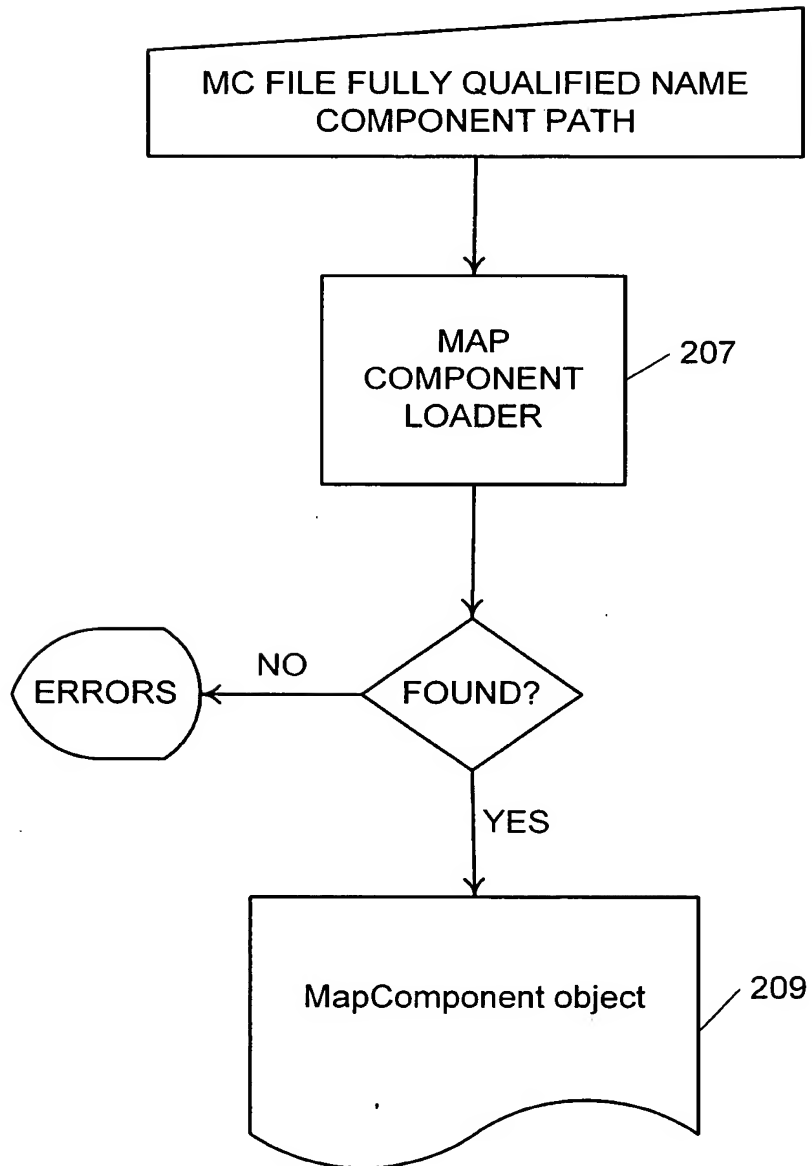
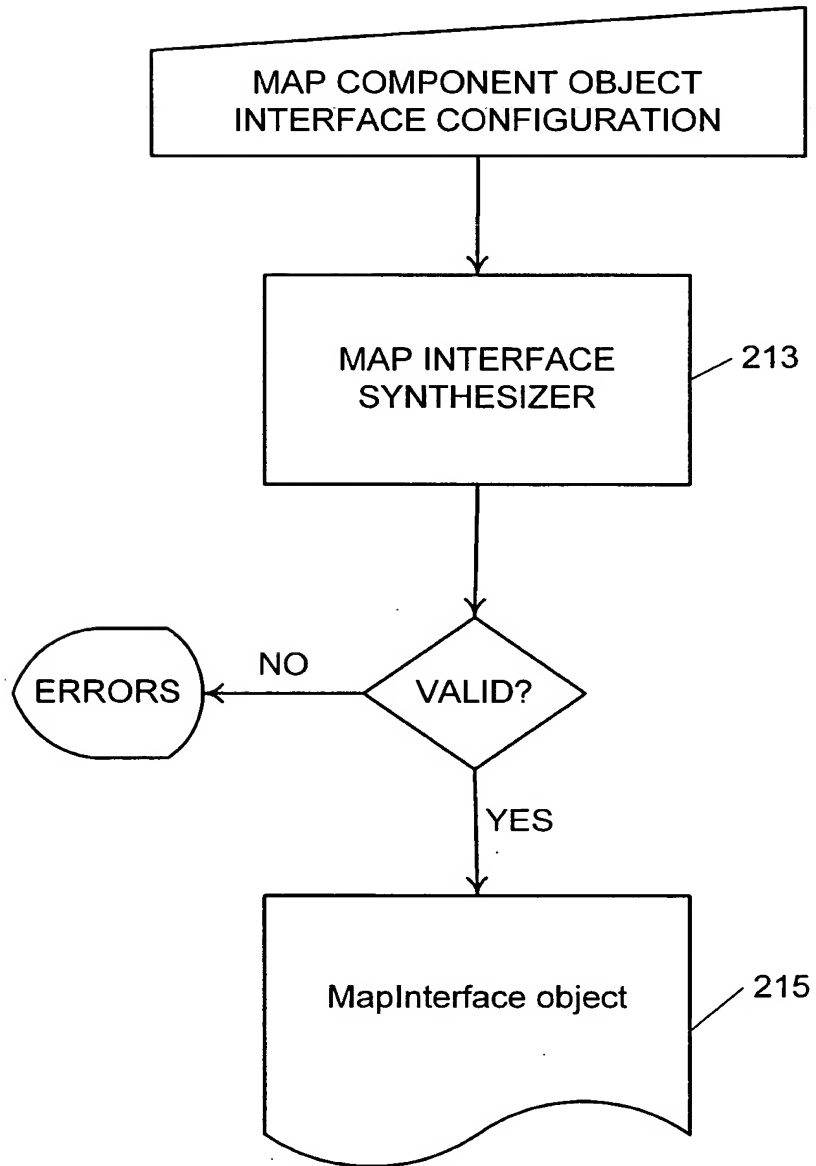


FIG. 7

MAP INTERFACE SYNTHESIS**FIG. 8**

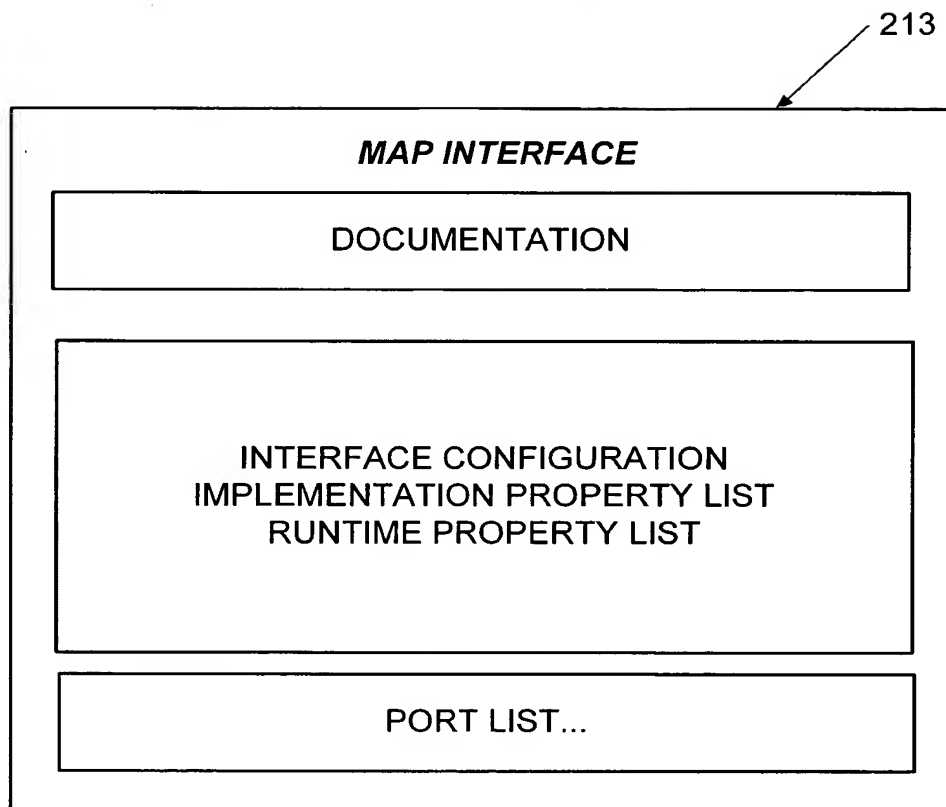


FIG. 9

MAP SYNTHESIS

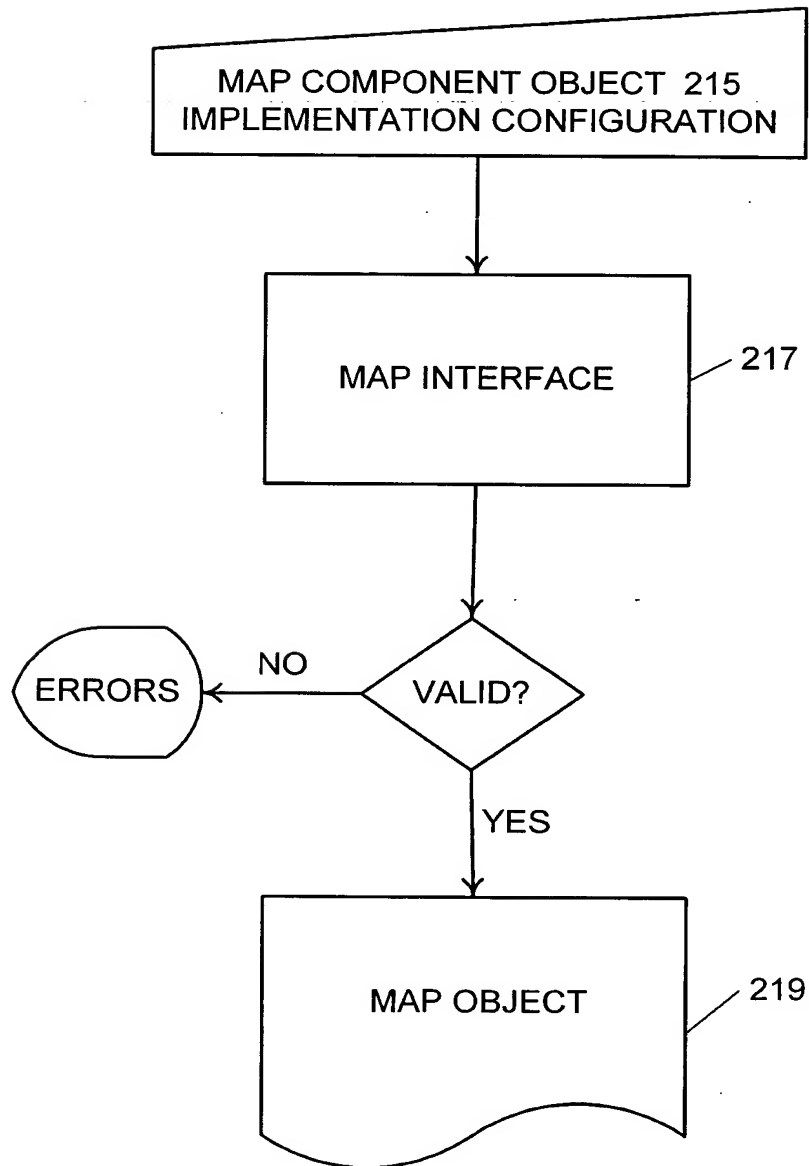


FIG. 10

219

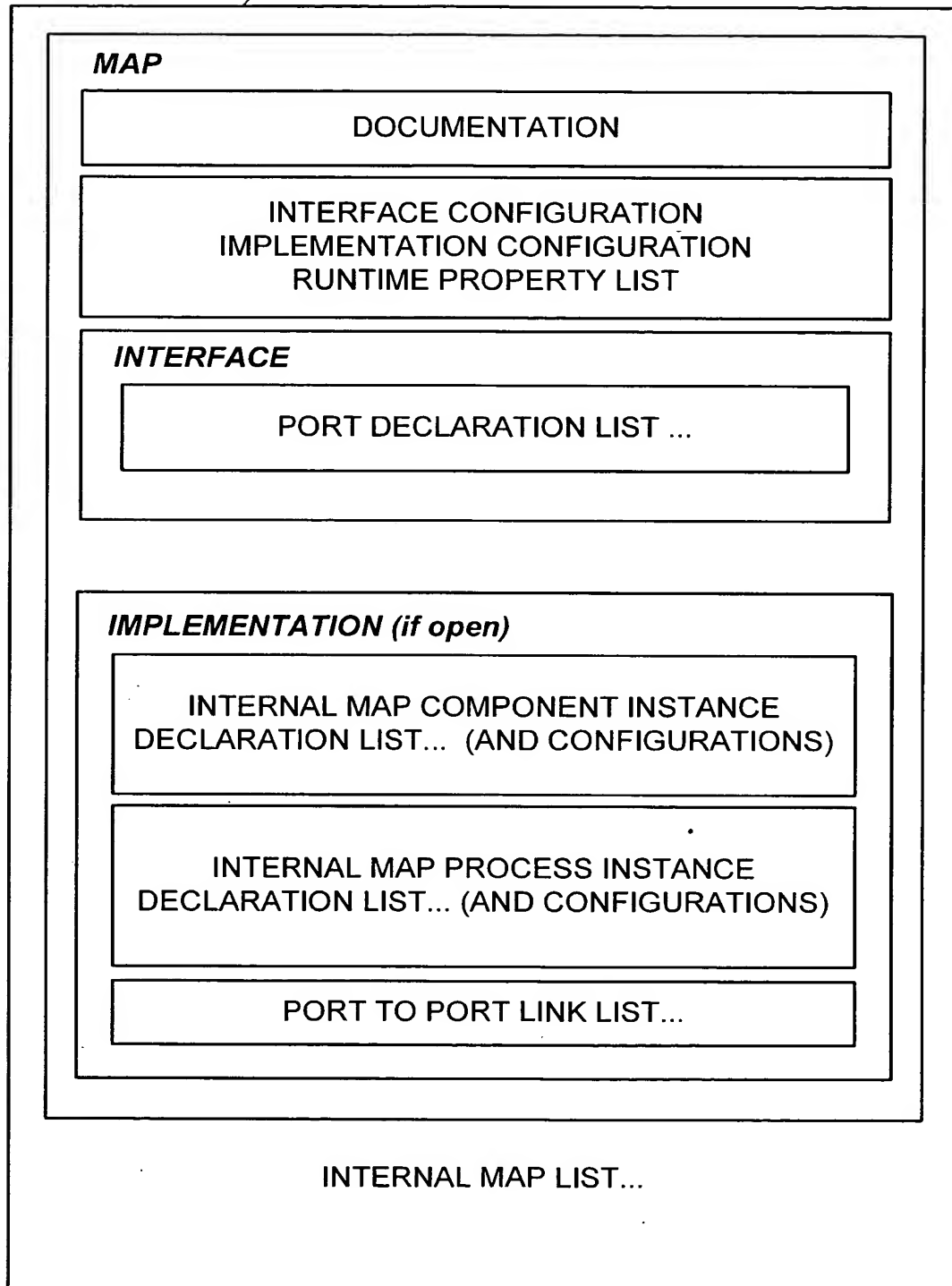


FIG. 11

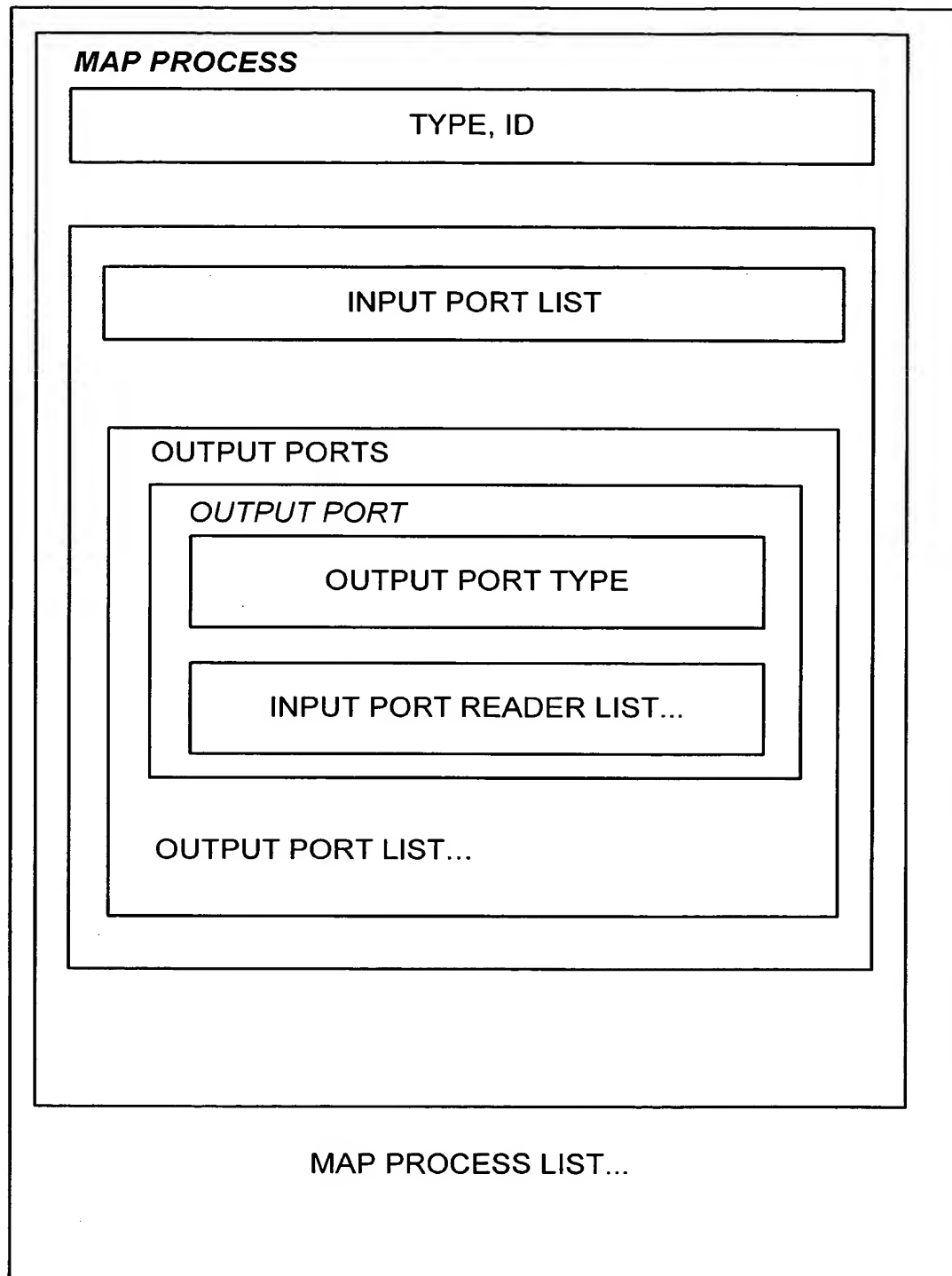


FIG. 12

MAP PREPARATION

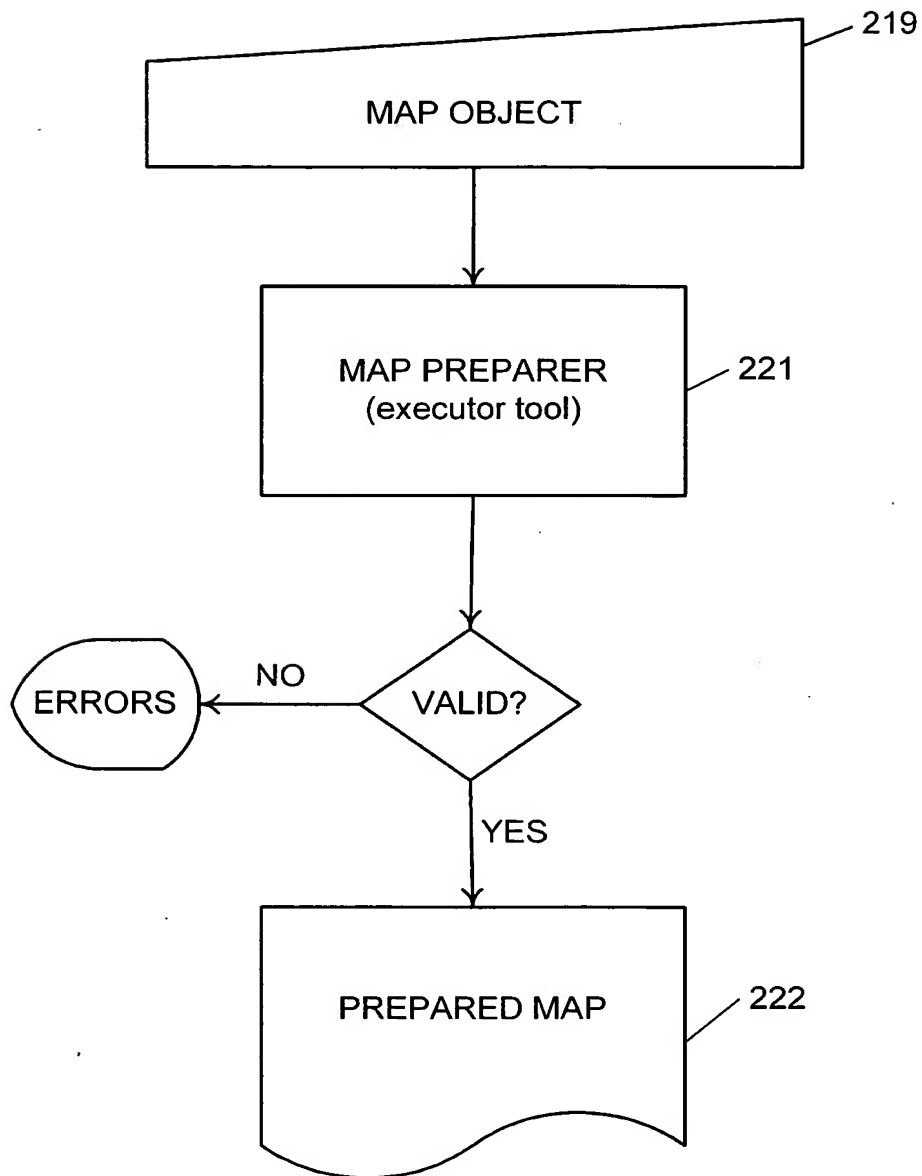


FIG. 13

PREPARED MAP EXECUTION

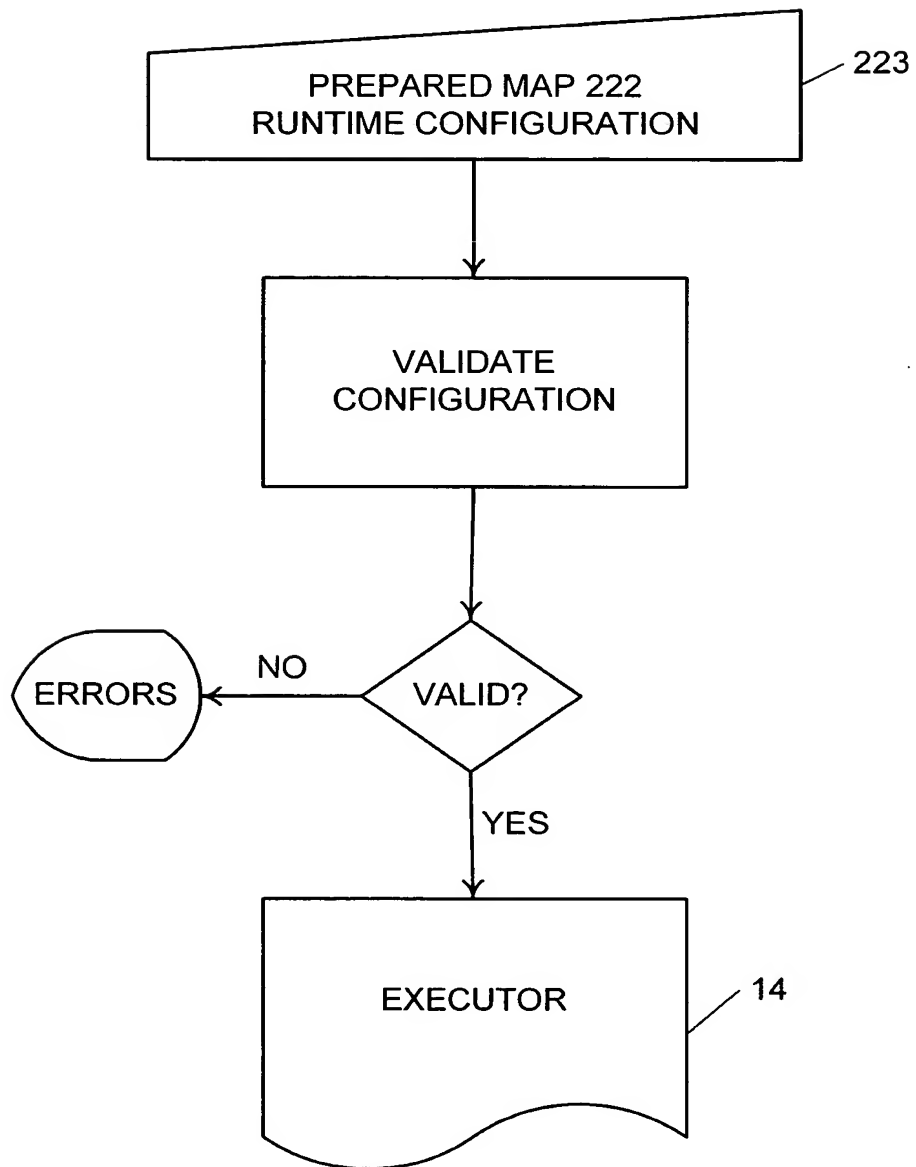


FIG. 14

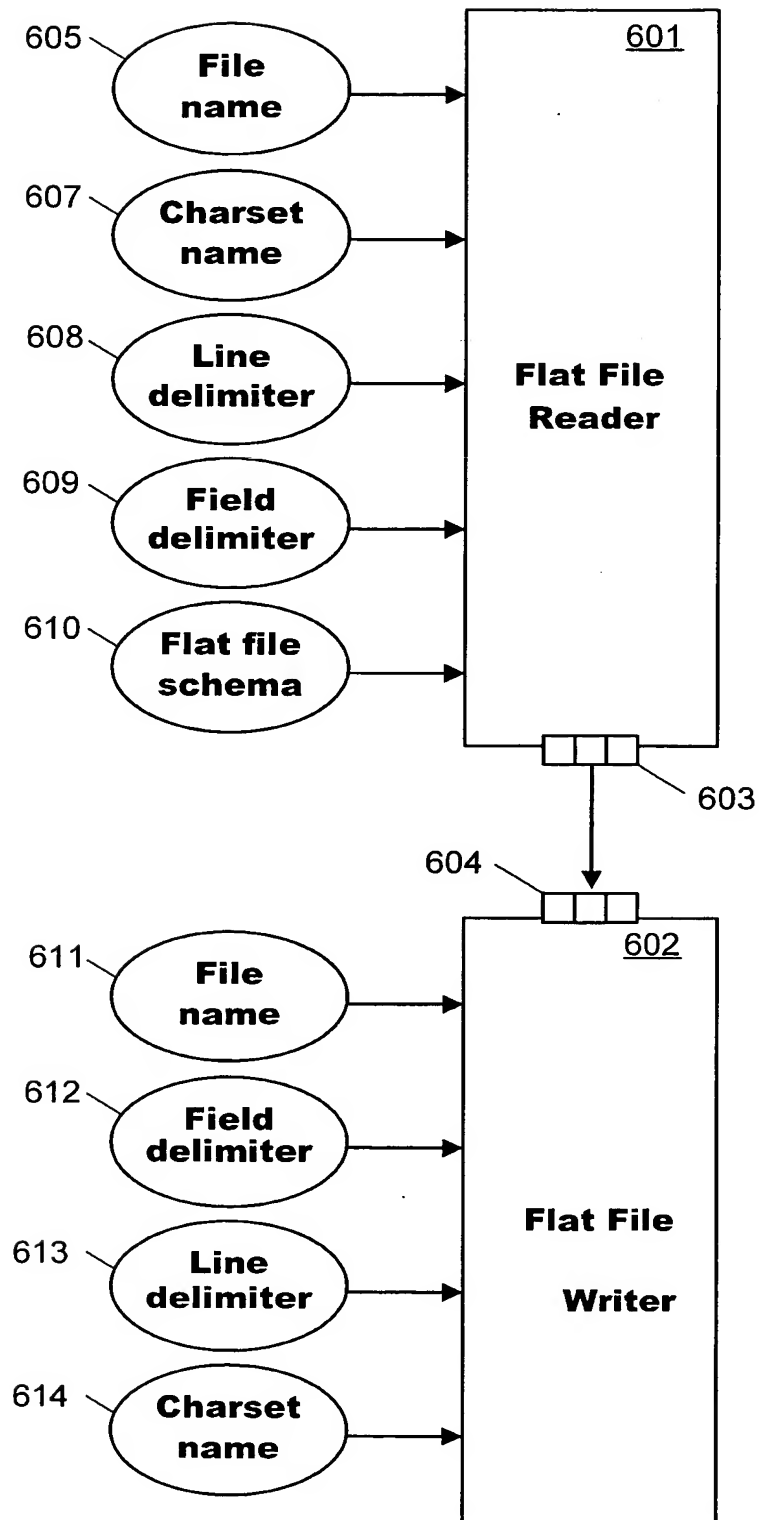


FIG. 15

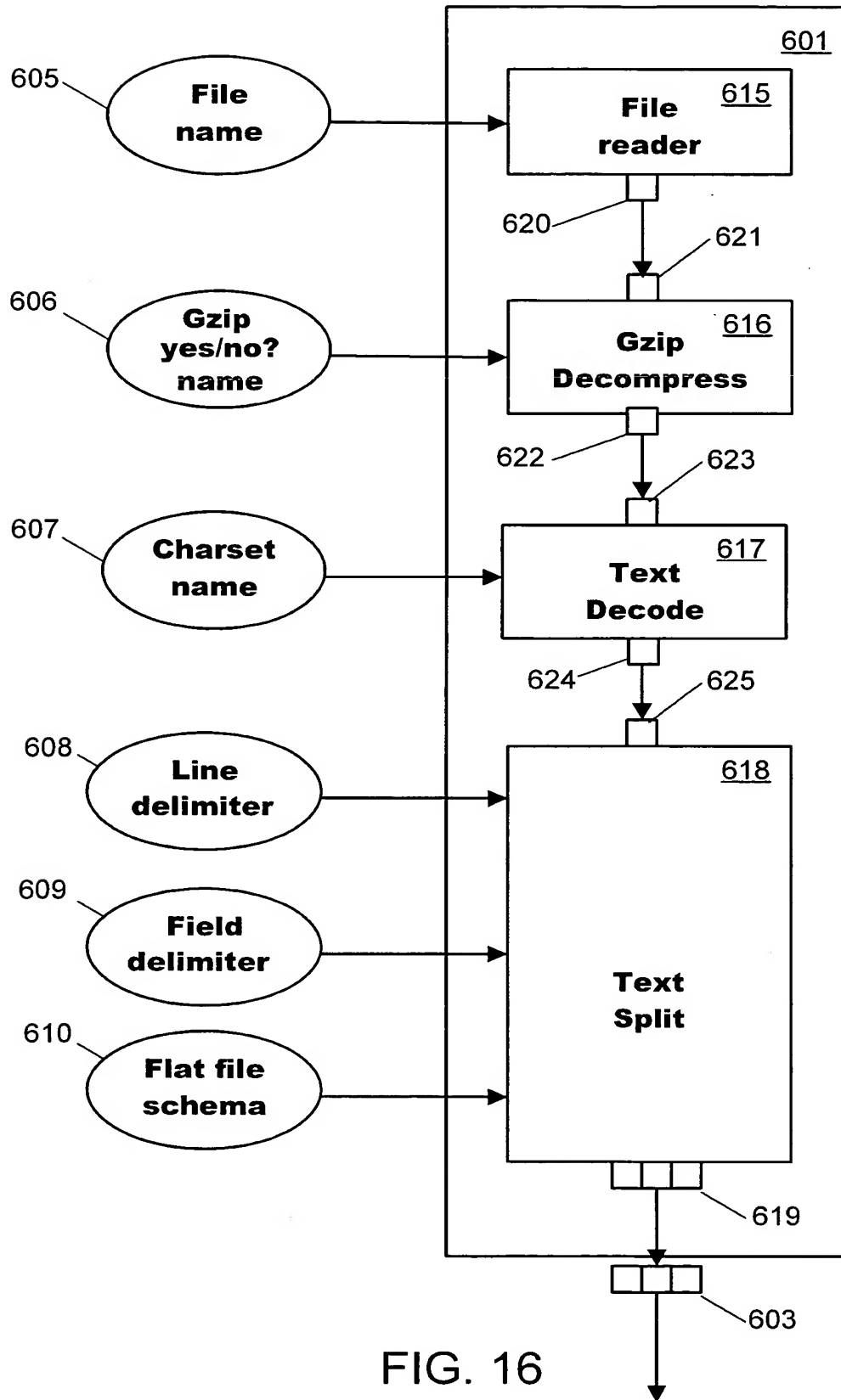


FIG. 16

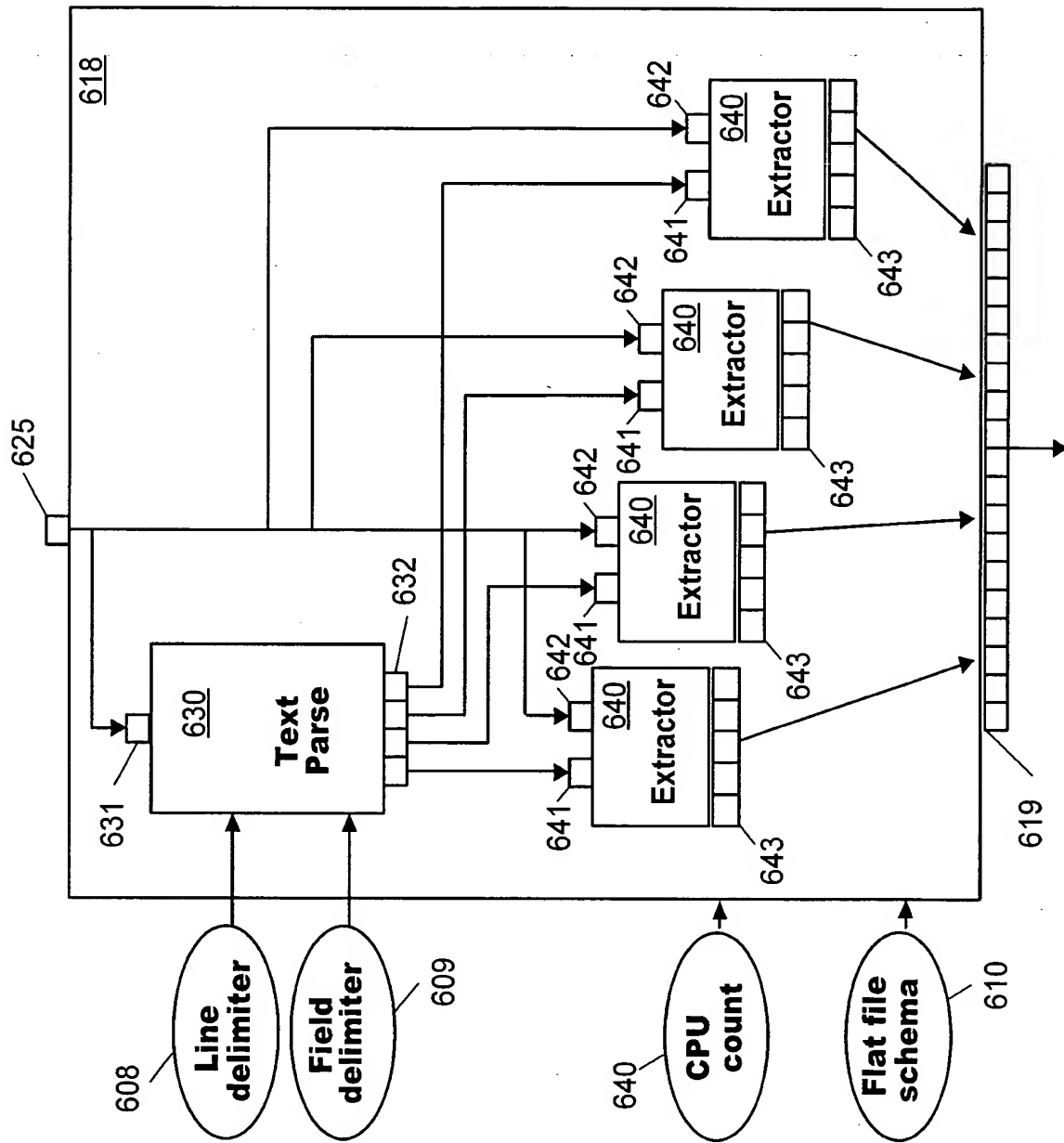


FIG. 17

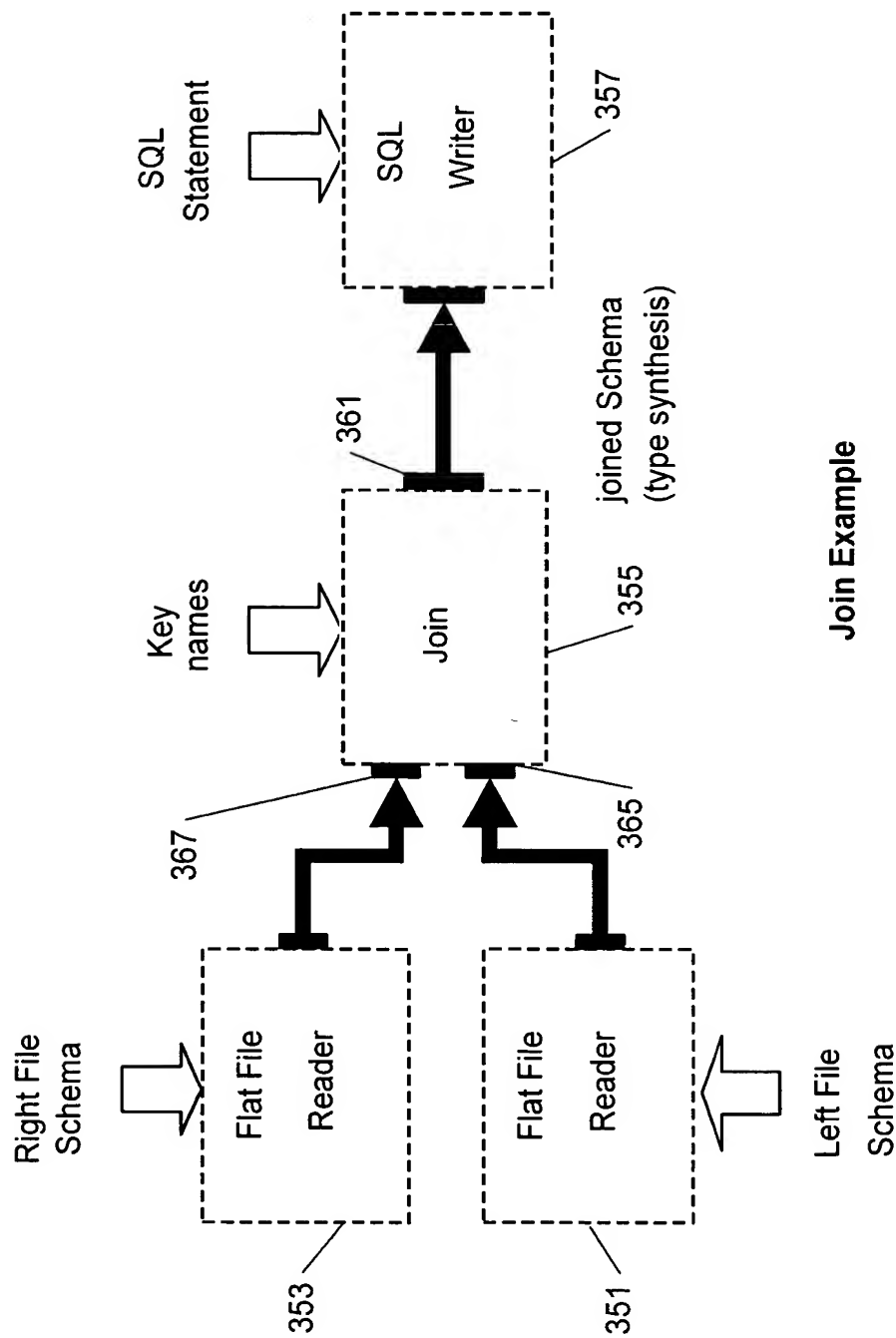


FIG. 18

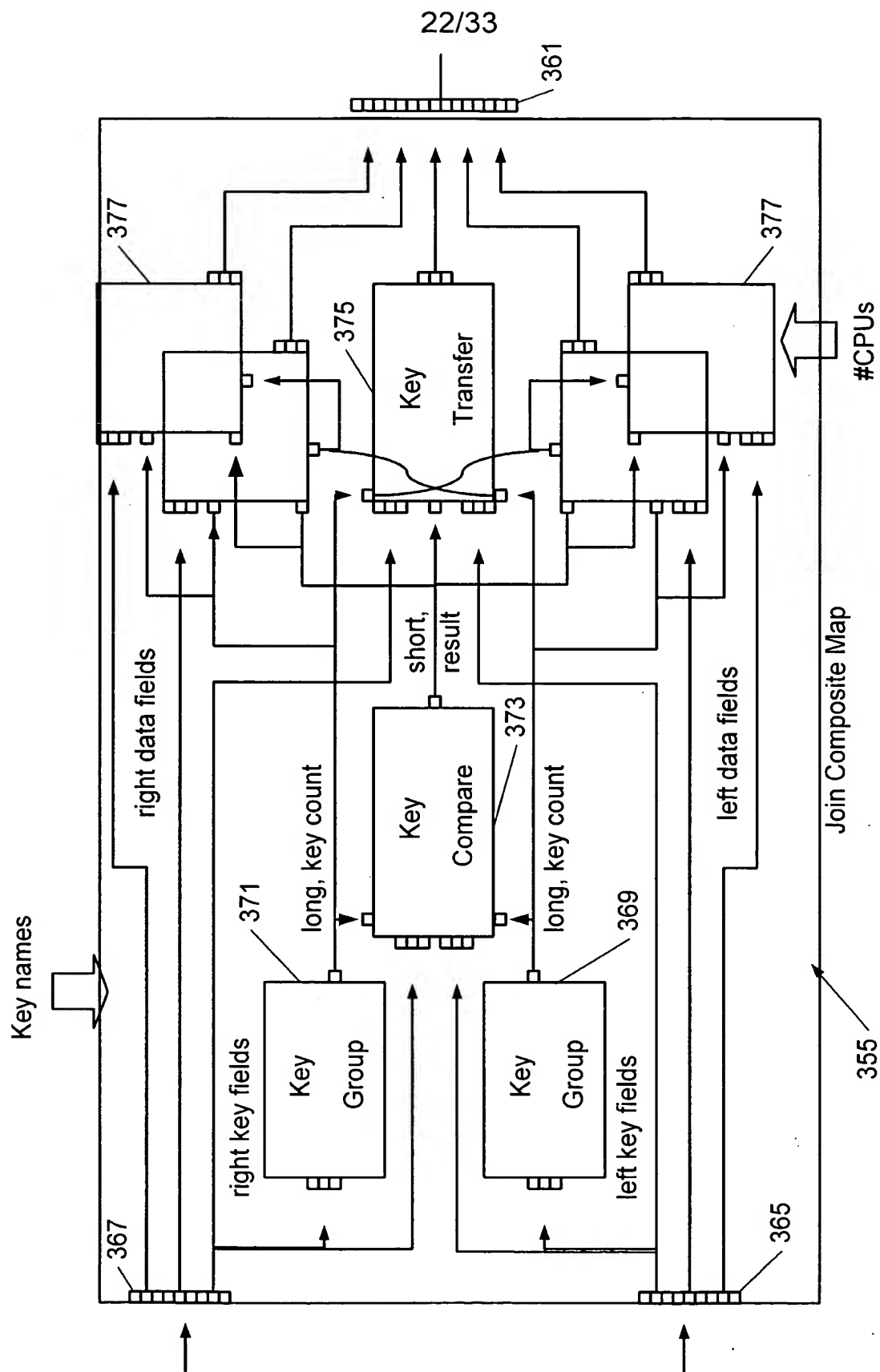


FIG. 19



FIG. 20

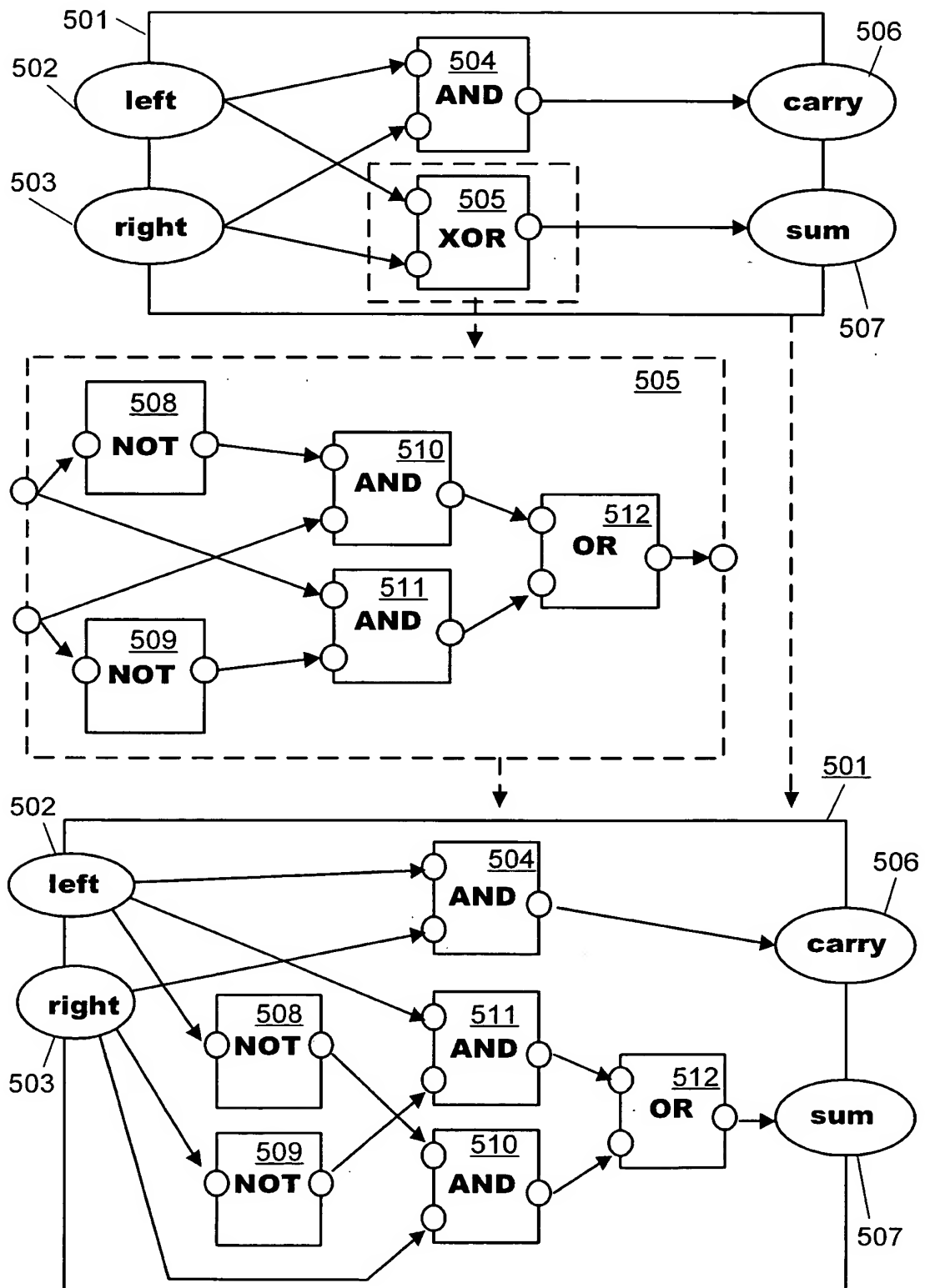


FIG. 21

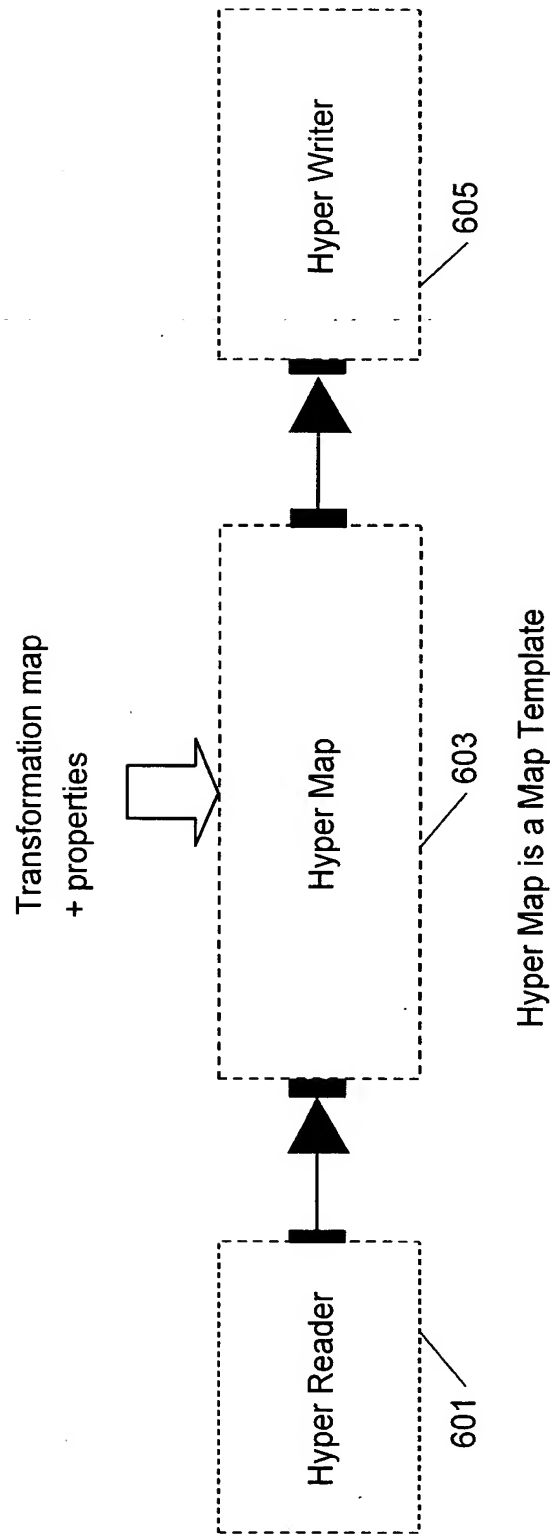
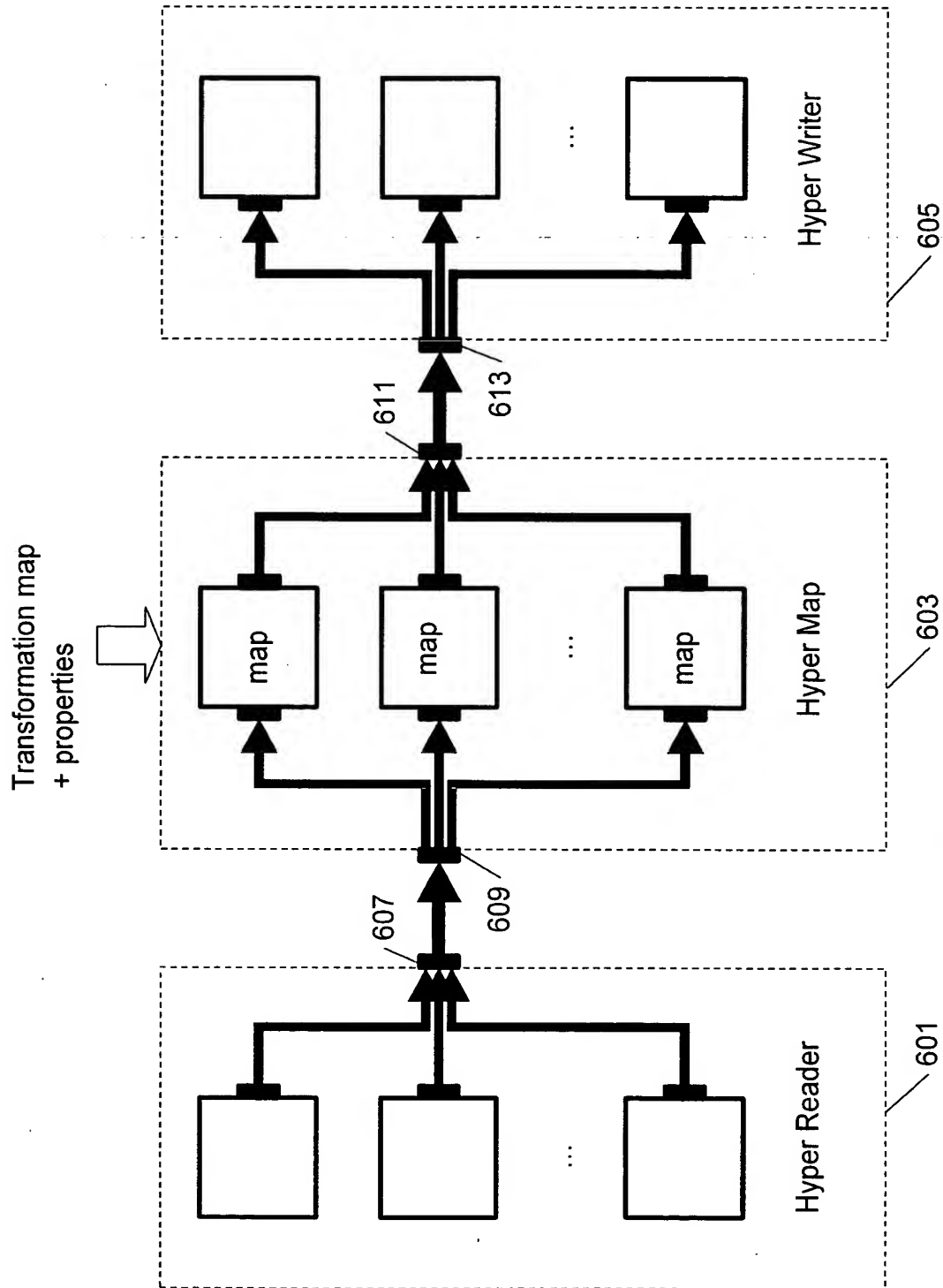


FIG. 22



Hyper Map Implements Partitioned Parallelism
FIG. 23

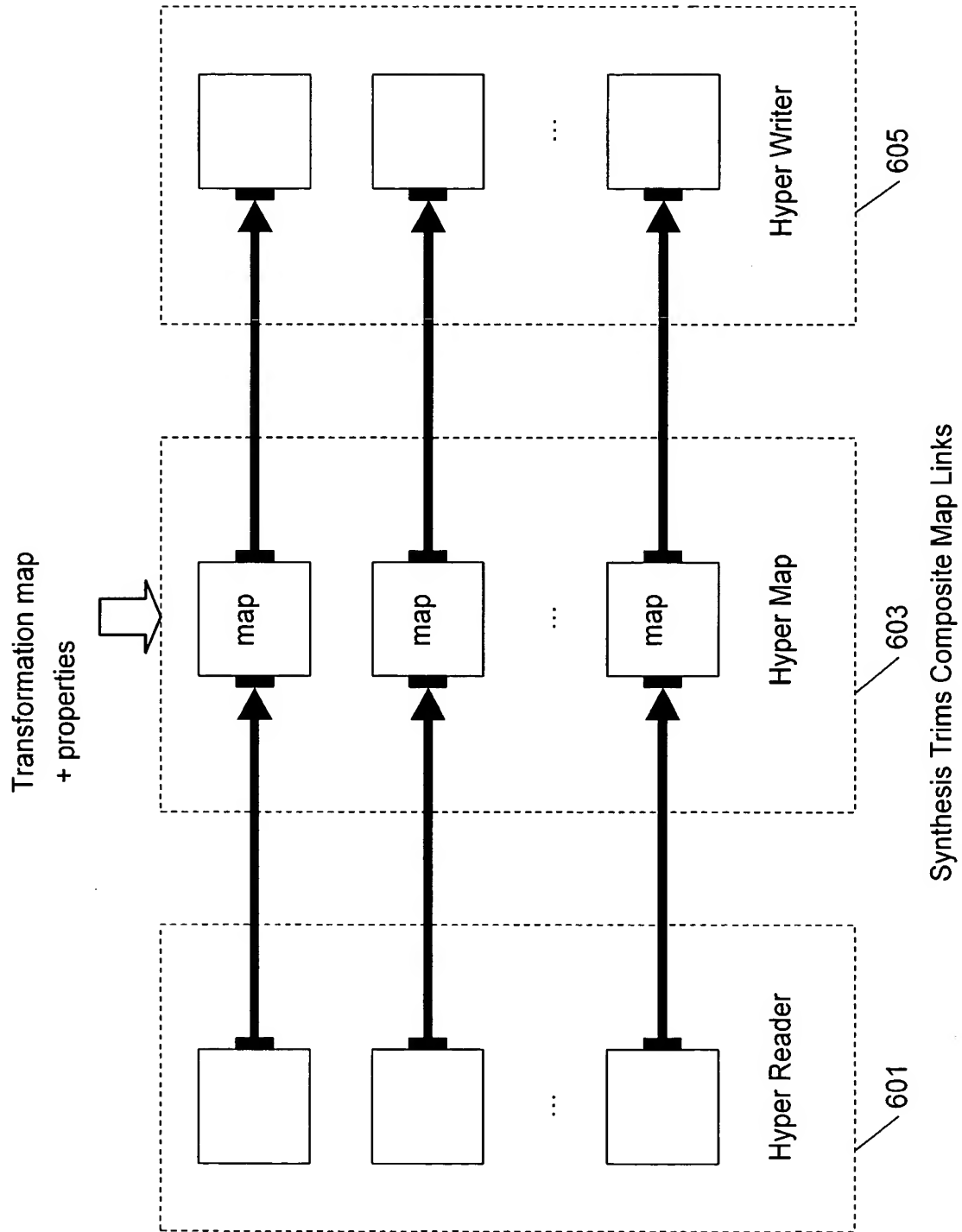
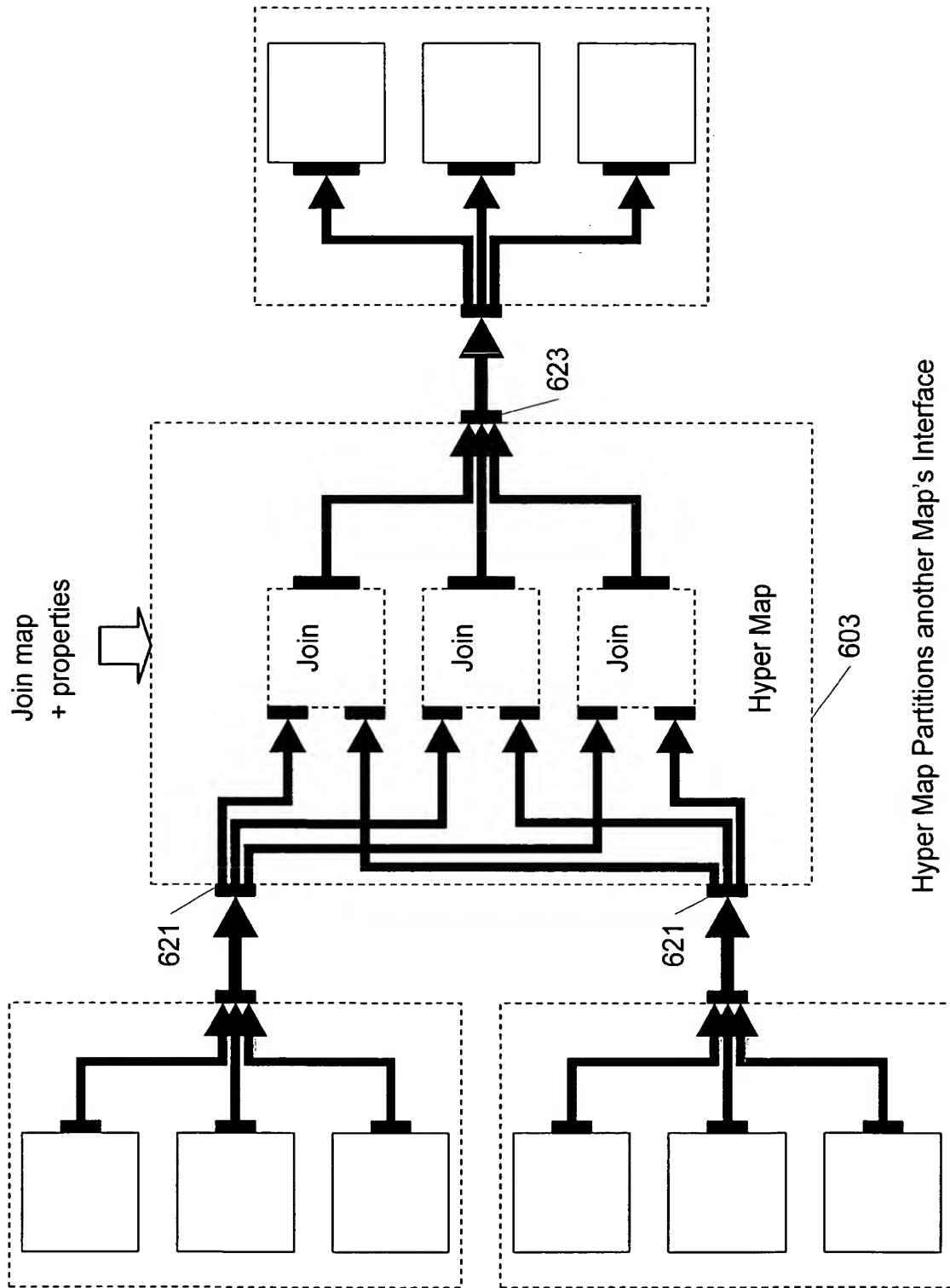
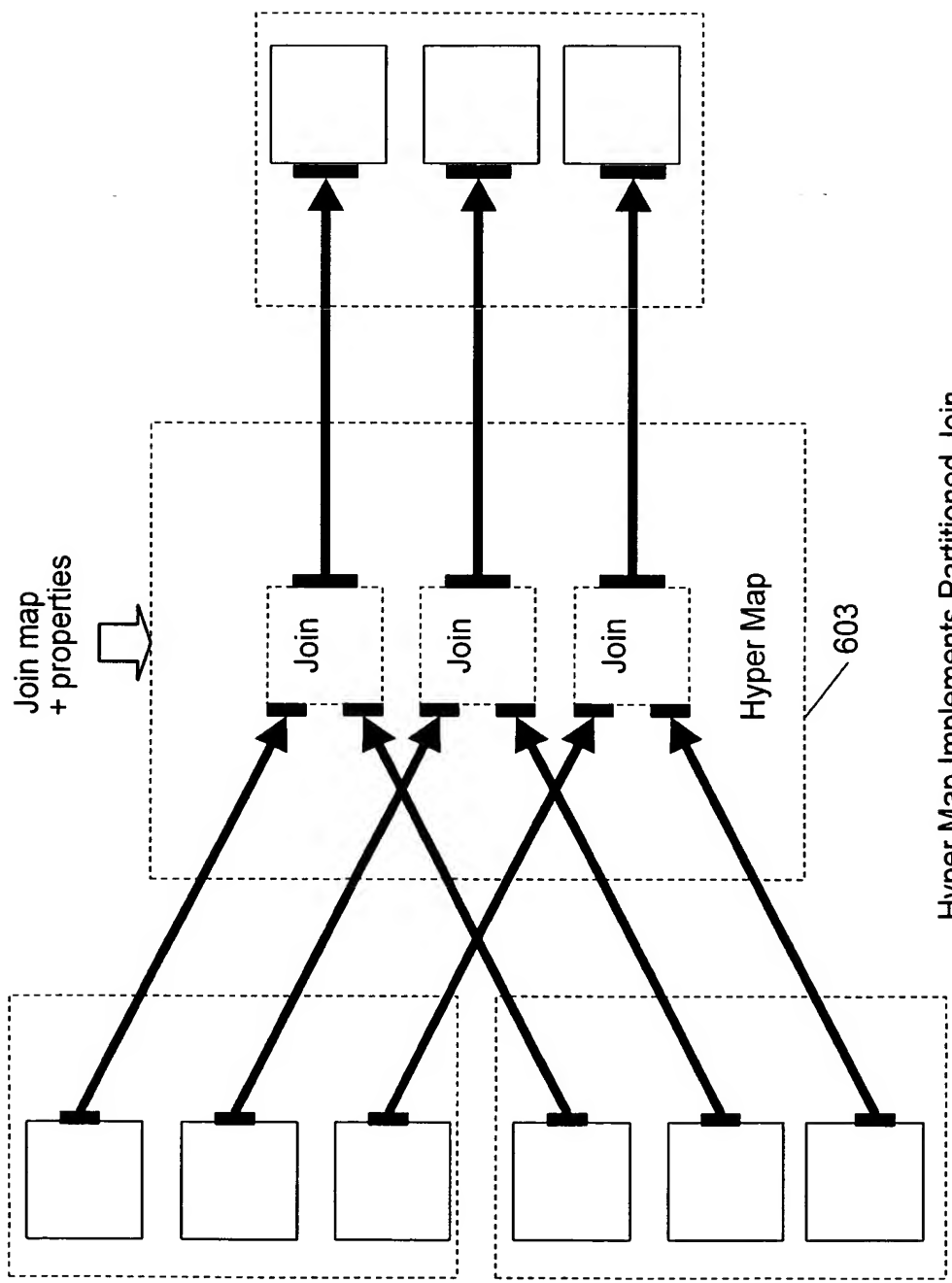


FIG. 24



Hyper Map Partitions another Map's Interface

FIG. 25



Hyper Map Implements Partitioned Join

FIG. 26

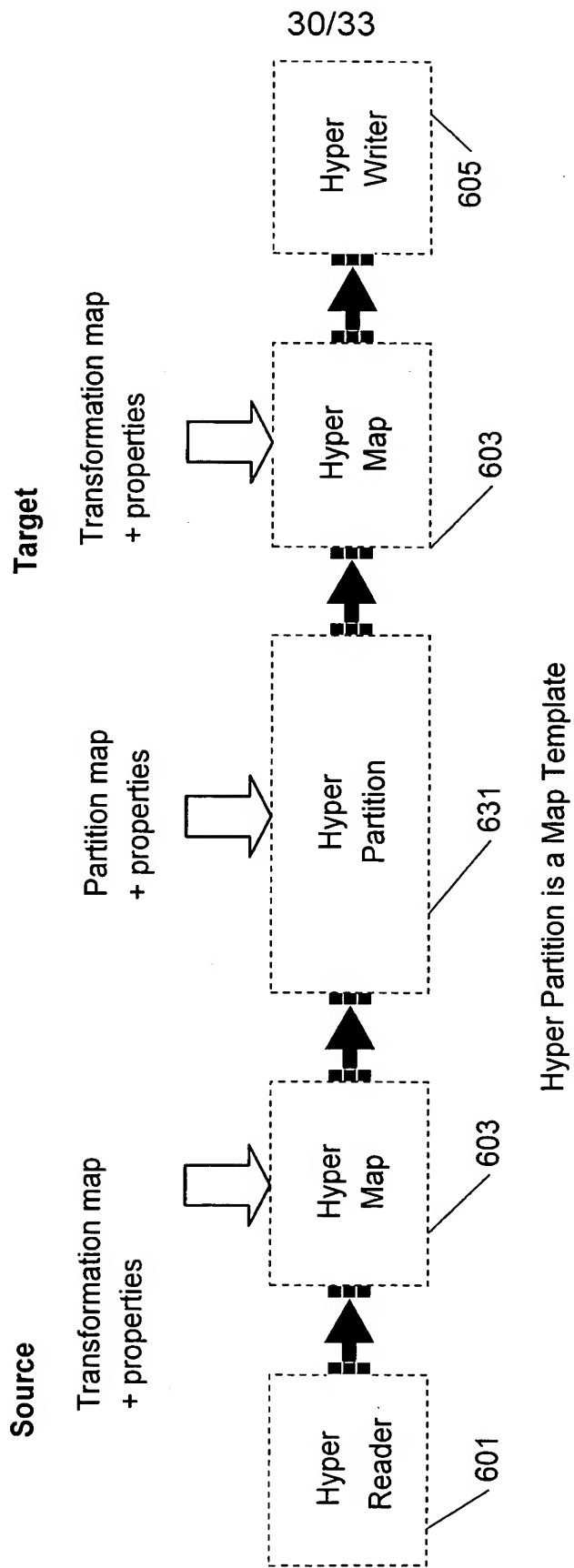
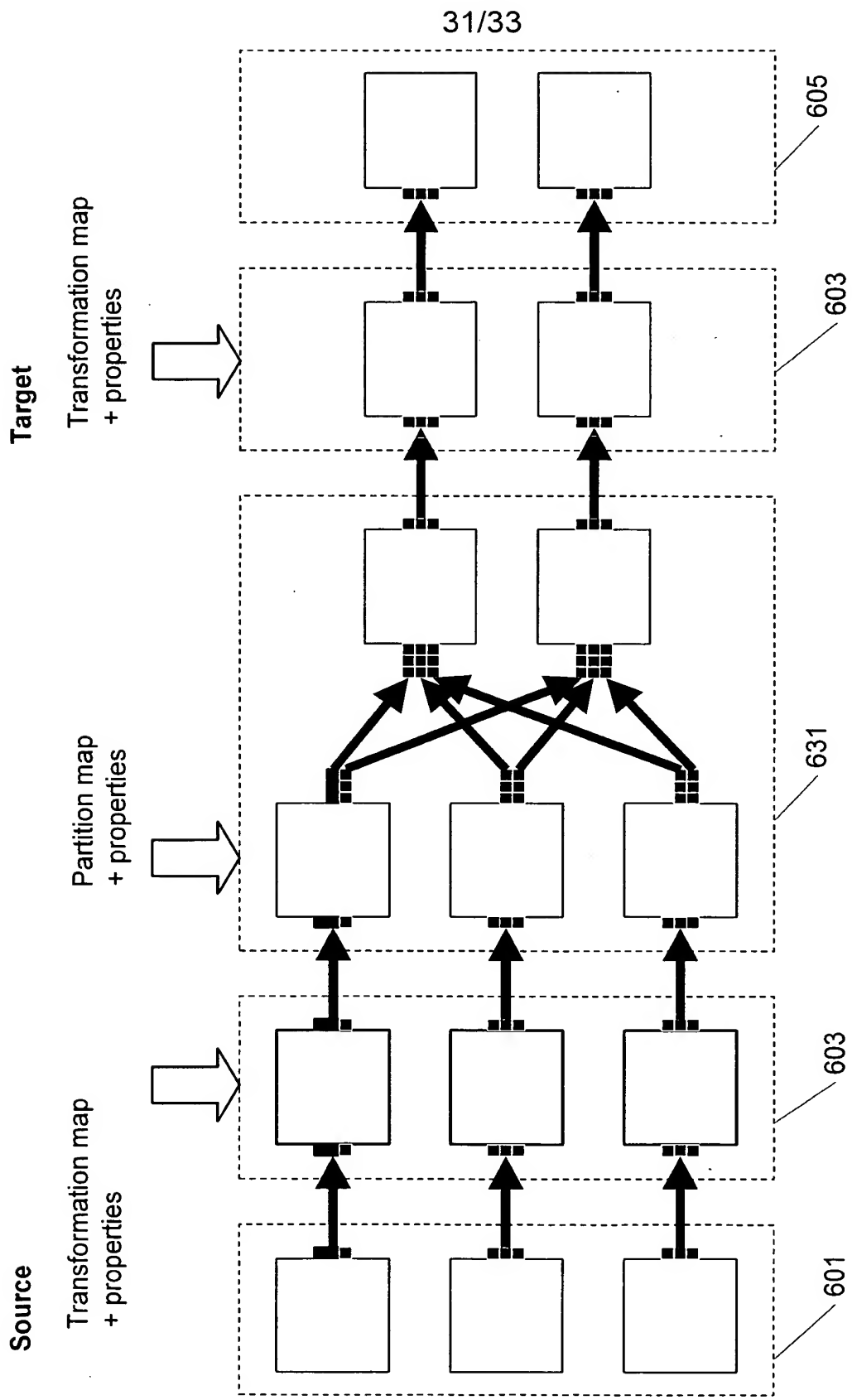


FIG. 27



Hyper Partition corrects Partition Schema Mismatch

FIG. 28

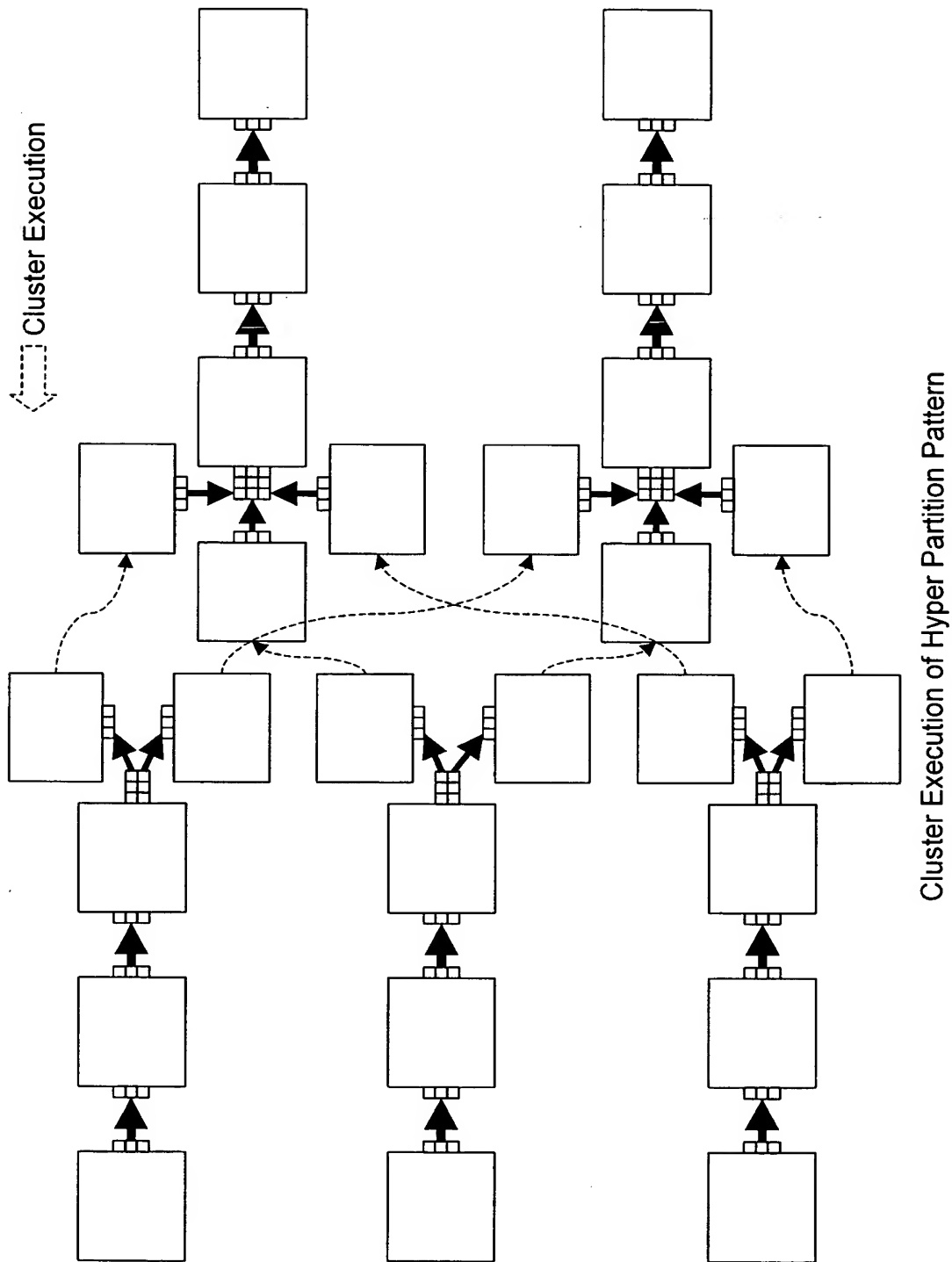


FIG. 29

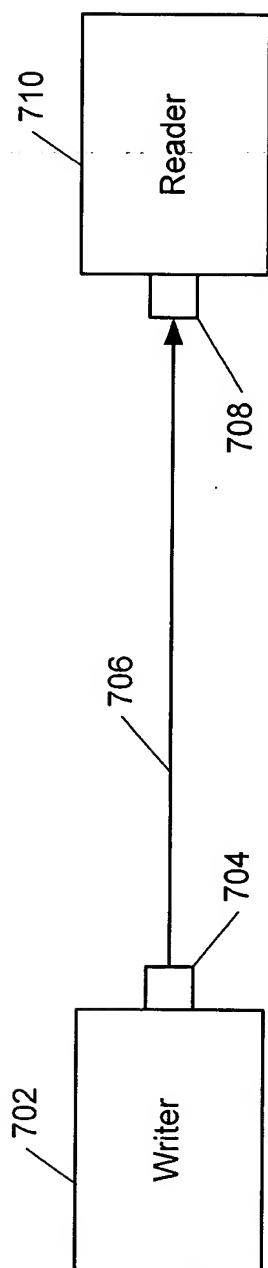


FIG. 30